

SUMup Annual Accumulation Dataset readme

1.0 Introduction

This yearly accumulation dataset, going back to 1800 where applicable, was compiled by the Surface mass balance and snow on sea ice working group (SUMup). This dataset is a community effort to distribute easy to use in-situ data to improve surface mass balance modeling and remote sensing efforts. This dataset is a compilation of work from many individual researchers. When using this dataset please cite **both** the individual researchers who provided the data as listed in the Citation Key below as well as the dataset. For questions about the dataset or to contribute your data to the dataset please contact the lead dataset compiler Lora Koenig lora.s.koenig@nasa.gov.

2.0 Contributing to the dataset

If you would like to contribute to the dataset please enter your data into the SUMup_data_templates.xlsx file under the Accumulation tab.

For no data enter -9999 otherwise fill in the columns as follows:

Date Taken- enter the year the data was taken.

Lat-Latitude of measurements in decimal degrees (N is positive S is negative).

Long- Longitude of measurement in decimal degrees (E is positive W is negative).

Core Start Year- enter the year for the first data obtained from the ice core.

Core End Year- enter the year for the last data obtained from the ice core. Please note that while a core may go back further in time we are only collecting annually resolved data from 1800 to present in this dataset.

Year- year of accumulation measurement.

Accum- Annual accumulation in m of water equivalent.

Error- 1 sigma error on accumulation measurement.

Elevation- the surface elevation of the measurement location in m.

Radar Horizontal Resolution- the horizontal resolution in m of continuous radar data.

Method- see method key below for numeric value of method used. If a method was used not listed in the key please add the method to the key with the next highest number.

Citation- see citation key below for numeric value for citation. If it is a new citation please add the citation to the key and assign the next highest number.

If you cannot enter your data into the SUMup template and would still like to contribute it please e-mail the data in its current form to lora.s.koenig@nasa.gov and the data will be reformatted and added as resources allow.

3.0 Format

The dataset is in tab delaminated text files and excel spread sheets. With the following columns, described in more detail in section 2.0. Date Taken, Lat, Long, Core Start Year, Core End Year, Year, Accumulation in m of water equivalent, Error on accumulation measurement, Elevation of surface in m, Radar Horizontal Resolution in m, method, citation.

No data value is -9999.

4.0 Method Key

1. Ice core
2. Radar isochrons

5.0 Citations

When using this dataset please cite **both** the individual researchers who provided the data as listed in the Citation Key below as well as the dataset.

Surface mass balance and snow on sea ice working group (SUMup) (date accessed). SUMup Annual Accumulation Dataset. Greenbelt, MD, USA: NASA Goddard Space Flight Center. Digital media.

5.1 Citations Key

1. Mayewski, P.A. and D.A. Dixon. 2005. *US International Trans Antarctic Scientific Expedition (US ITASE) glaciochemical data*. Boulder, CO, USA: National Snow and Ice Data Center. Digital media.

6.0 Acknowledgement

The SUMup working group is supported by the NASA Cryospheric Sciences Program.